January 8, 1979

Division File

Kenneth Hensing and Perry Hann

East St. Louis/SCA-Hilam - No. 163 045 01 - The Groundwater Problem at the Special Waste Area.

The following is a supplement to the previous memorandum concerning the special waste area of the SCA site near East St. Louis, Illinois. (See memo dated January 2, 1979.

It has become apparent the water infiltration observed has caused serious problems regarding the operation of the area as well as the potentiality of ground water pollution. Remedial action outlined in the plans (under which the supplement permit was granted) requires ten (10) feet of low permeable clay to be over excavated around the lateral marging of the trench. The Permit Section and Hydrogeology Unit have discussed and accepted this as a suitable corrective means.

It is important to point out however, this will only correct the problem if the water we have observed is the result of lateral seepage along the walls of the trench.

Some of the evidence by the observation of the large volume of water entering the trench would tend to dictate vertical seepage through the bottom of the trench.

Whatever the source, the main concern is whether the water entering the trench will be present after deposition.

Due to the nature of the previous operation we have had no means of knowing if the portion of the trench, which already has had barrels deposited in, has water in it. The procedure of disposal of the barrels when it was operating was the following. First, a portion of trench I was excavated over several days during which time a number of trailer loads of barrels arrived and sat idle. Once excavated to a size which could accommodate the volume of barrels stored at that time they were implaced in the trench and immediately covered. Further excavations began only when several trailer loads of barrels arrived, then the procedure repeated.

Once these areas were pumped dry enough, barrels were deposited and covered allowing no means of checking if water returned to the trench.

After discussing the situation, Ken and myself have proposed and recommend the monitoring of the quanity of water in the trench, after the depostion and covering of the barrels. (Provided disposal will resume after the margins are over excavated.) A piece of PVC pipe can be capped and slotted at the lower two (2) feet and then placed at the bottom of the

trench between barrels during disposal and then covered, leaving the pipe exposed for piezometric readings to be monitored. If any vertical seepage of ground water occurs it will show up in the piezometer.

We also recommend the barrels that have already been disposed of should be removed until the entire trench can be overexcavated. With the evidence accumulated since the time these barrels were first disposed of we must assume water has re-entered the trench.

PCH:jlr

cc: Southern Region
William Child
Tom Cavanagh
Rauf Piskin